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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,422	08/05/2003	Stephan Bolz	071308.0459	7927

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BAKER BOTTS L.L.P.
PATENT DEPARTMENT
98 SAN JACINTO BLVD., SUITE 1500
AUSTIN, TX 78701-4039

EXAMINER

PHAM, LEDA T

ART UNIT PAPER NUMBER

2834

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/634,422	Applicant(s) BOLZ ET AL.	
	Examiner Leda T. Pham	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6,9,13 - 24 is/are rejected.
- 7) ☒ Claim(s) 7,8 and 10-12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of: _____
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/5/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the regulator circuit must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 1, 5, 9, 13, 17 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 13, “the minus pole of which is grounded” is confuse because which subject mater, the AC/DC converter minus pole or the battery minus pole, is grounded? It should be clear if the claim is recited as –the minus pole of the AC/DC converter is grounded—or --the minus pole of the battery is grounded--. It is also the same problem with “the negative terminal of which is grounded” at the end of the claims.

In claims 5 and 17, “a regulator circuit” is indefinite because the subject mater does not describe in the specification, and in the drawing. In light of the specification, it is understood as the PWM.

In claims 9 and 21, “a control/regulator circuit” is indefinite because the subject mater does not describe in the specification, and in the drawing. In light of the specification, it is understood as the PWM. “Switches S1 to S4” lack of antecedent basis because claim 9 depends on claim 1 where claim 1 just only has two switches S1 and S2.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1 – 6, 13 - 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. Patent No. 5,552,681).

Referring to claim 1, Suzuki teaches a motor vehicle electric system comprising an internal combustion engine (1) and, mechanically connected thereto, an integrated starter-generator (2) that charges a double layer capacitor (20) and a battery (22) to a first voltage via a bi-directional AC/DC converter (4) in generator mode and is driven by the energy stored in the double layer capacitor or in the battery in motor mode, wherein an intermediate circuit capacitor (7) is arranged between the positive and negative direct voltage terminals of the bi-directional AC/DC converter (4), a first switch (12) is provided via which the positive direct voltage terminal of the bi-directional AC/DC converter can be connected to the plus pole of the battery, the minus pole of which is grounded, and a second switch (12) is provided via which the positive direct voltage terminal of the bi-directional AC/DC converter can be connected to the positive terminal of the double layer capacitor, the negative terminal of which is grounded (figure 3). However, Suzuki fails to teaches clearly the first switch, and the second switch are separated in the semiconductor switching circuit. It would have obvious to one of ordinary skill in the art at the time the invention was made to modify the switching system with a first switch and a second switch in order to clearly separated the control switching circuit for storing energy in the double layer capacitor or the battery.

Referring to claim 2, Suzuki teaches the motor vehicle electric system wherein the first and second switches are interlinked in such a way that they cannot both be in the conducting position at the same time (figure 3).

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Referring to claim 3, Suzuki teaches the motor vehicle electric system wherein the intermediate circuit capacitor (7) can be charged from the AC/DC converter (4) to a voltage value corresponding to the voltage at the double layer capacitor or the battery before the first or second switch is switched to the conducting position (figure 3).

Referring to claim 4, Suzuki teaches the motor vehicle electric system wherein the flow of current into the AC/DC converter or out of the AC/DC converter can be reduced to a minimal value before the first or second switch is switched to the non-conducting position (figure 3).

Referring to claim 5, Suzuki teaches the motor vehicle electric system wherein a regulator circuit is provided by means of which the double layer capacitor can be recharged from the battery.

Referring to claim 6, Suzuki teaches the motor vehicle electric system wherein the double layer capacitor is charged to an elevated voltage higher than the voltage of the battery.

With regard to claims 13 - 24 the method of operating a motor vehicle system would be inherent and obvious since the prior art references meet the structural limitations of the claimed device.

Allowable Subject Matter

6. Claims 7 – 8, 10 – 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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7. Claim 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is an examiner's statement of reasons for allowance: the record of prior art does not show a motor vehicle electric system having an additional battery to supply additional loads with a second voltage, which additional battery is charged via a bi-directional DC/DC converter by the battery wherein a third switch is provided via which the plus pole of the first battery can be connected to a positive terminal of the bi-directional DC/DC converter, and a fourth switch is provided via which the positive terminal of the double layer capacitor can be connected with the same positive terminal of the bi-directional DC/DC converter.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Leda T. Pham whose telephone number is (571) 272-2032. The examiner can normally be reached on M-F (8:30-6:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leda T. Pham
Examiner
Art Unit 2834

LTP
July 25, 2004



Nicholas Ponomarenko
Primary Examiner
Technology Center 2800